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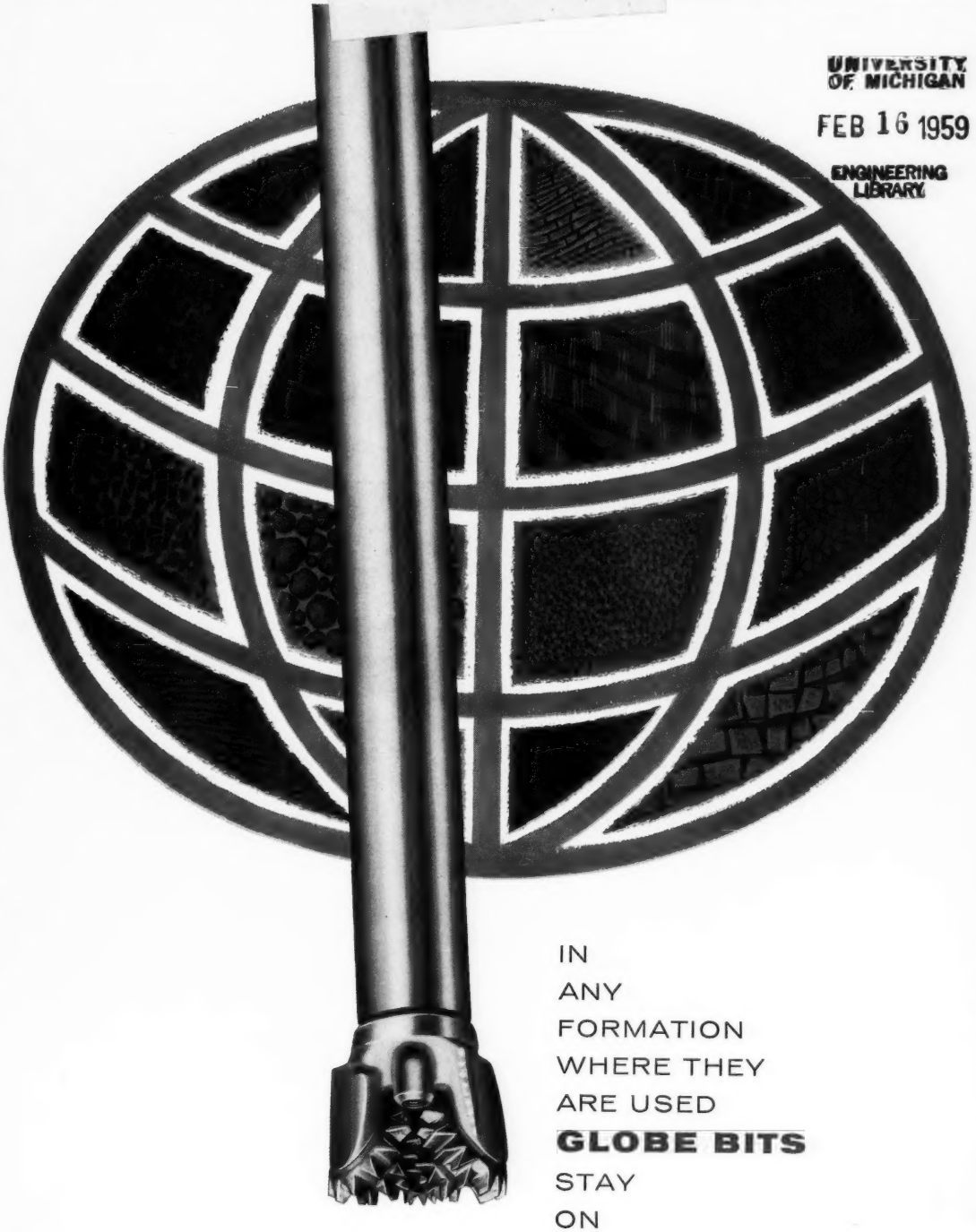

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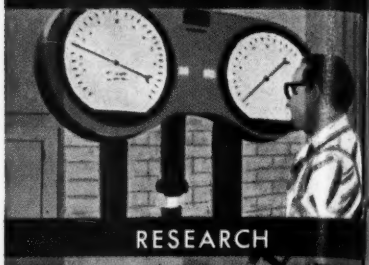
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Oil Dollars Go To College

We have been hearing a lot recently about scholarships and grants to educational institutions by the Federal Government. We won't go into the pros and cons of this aid to education. What we do want to point out is that American industry, too, is aiding education on a big scale and many companies have been doing it for many years.

As could be expected, the oil industry is well in the forefront of this action. We won't try to give a comprehensive study of the oil companies at present donating money to the advancement of education; there are too many of them and space permits mention of only three or four. The grants and scholarships awarded by a couple have been given in detail in previous issues of the California Oil World. But the following brief mention will give an idea of what industry is doing.

Take Standard of Cal. The overall program of this company and its subsidiaries through fellowships, scholarships, unrestricted aid, technical grants and special services will amount to more than $1,300,000 in 1959. Included in this program are 11 fundamental research projects at nine universities, 47 technical fellowships and approximately 230 undergraduate scholarships at some 100 colleges.

As a supplement to its aid-to-educational program, Standard also joined with several other American firms in sponsorship of "Continental Classroom," the nation's first accredited college course to be offered via network television.

Then consider a newcomer to the educational project. The Superior Oil Company has joined the increasing number of private firms helping shoulder the ever-increasing educational burden with a $100,000-a-year university scholarship program.

The Shell operating companies created a Foundation in 1953 for educational, charitable and other organizations. Out of the $1,205,850 to be awarded this year, support to education totals nearly $700,000. Included are research grants in chemical engineering and physics; post graduate fellowships in chemistry, geophysics, geology and mechanical engineering; graduate fellowships in chemistry and mechanical engineering; and "assists" to colleges for use in faculty development programs.

Gulf Oil Company back east distributed more than a quarter of a million dollars during the past year to help promote the sound growth and effectiveness of 600 American colleges and universities.

Du Pont, whose interests are only partially in petroleum, will distribute nearly $1,200,000 to 139 universities and colleges this year as an aid to education. It is nearly doubling the amount given to physical science because of the growing need for this type of work. It has been making grants to post graduate work since 1918 and has been supporting the educational program in general since 1949.

When we think of the other oil companies and then of the myriad companies in the many and various industries throughout the country which are also aiding education in grants, scholarships, faculty aid, etc., we can realize the great sums that are being given each year toward the advancement of science. We say advancement of science because the greater amounts are probably devoted to that branch of education.

That does not include company research which is of such vital importance in the progress and economy of the United States and which has been carried on with accelerated intensity for many, many years. It must be remembered that industry, and industry alone, can produce the tools, equipment and materials which are used in peace and war. So industry not only aids in the preparatory work of academic education but trains and continues the education of men and women after they leave the halls of ivy.

It is probable, too, that industry, in its allotment of funds in aid to education makes use of its experience in making allotments and thus assures the highest possible results. Geographically, the aid goes to all the states of the Union with judicious selection of the institutions that best meet the requirements for the objective in view. We have not mentioned the names of any of the institutions cited for grants and scholarships; to list them would take more than this page.

Incidentally, industry is more interested in quality of education than quantity.

Petroleum LORE and LINGO

By RICHARD SNEDDON

Mud Historically

Mud has figured pretty prominently in our mundane affairs ever since the origin of the human species. In his famous poem, "Evolution," Langdon Smith opens his eternal love story as follows:

"When you were a tadpole and I was a fish
In the Paleozoic time
And side by side on the ebbing tide
We sprawled through the ooze and slime
Or skittered with many a caudal flip
Through the depths of the Carbrian fen
My heart was rife with the joy of life
For I loved you even then."

I have no idea where or of what age the Carbrian fen is but a fen is what is known to the Cree Indians up in the Canadian Northwest Territories as a muskeg, that is to say, a marsh or a bog. And tadpole is simply a condensed version of toad poll in which poll means head. A voting poll or a public opinion poll, you will remember, is an expression of opinion on some interesting subject, during which the heads are counted. A tadpole is thus merely a toad with a big head—and a long tail too, if we will take cognizance in the fifth line of the word "caudal." This is from the Latin *cauda,* "a tail." I recall some years ago sitting on a Superior Court Jury listening to testimony in a damage suit that involved long discussions of the *cauda equina* which is Latin for "horse's tail." As nearly as I could gather from the arguments of the orthopedists and neurologists, the *cauda equina* is a spray of nerve filaments that sort of cascade out from between vertebrae somewhere along the route of the spinal cord, in a manner that is reminiscent of a little girl's pony tail hairdo.

Nasty Names

Ooze and slime are more or less disparaging names for mud which has been known by that last term almost since the days of Adam and Eve. The dictionary defines it as "soft, moist earth," but even at the risk of being presumptuous, I can't help feeling that the common conception of mud is something that is decidedly wetter than "moist." Despite the nasty appearance of most varieties, mud has for centuries been useful in a number of ways. Ladies have selected certain kinds in which to bathe with the hope of becoming even more attractive. They have employed it in the form of face packs for the development of that skin which the mere male loves to touch. There are muds in scattered parts of the world that are reputed to have astounding curative properties for an infinite assortment of diseases. Men have baked many species into bricks for building purposes, and tiles for roofing or have used them as cements for binding rocks together to make walls and fences, and to chink the drafty corners of their caves. On the debit side, no historian ever forgets to tell how a hundred years ago, along Oil Creek near Titusville, the birthplace of the petroleum industry, roads were trampled into an almost impassable quagmire during the spring thaws. Hundreds of plunging horses and loud voiced teamsters were all but engulfed in the sticky mess. One English visitor described the stuff as, "A miry sea of the most amazing glutinosity," and in case you might be interested that "glu-" on the front of glutinosity is just the same old glue we have always known excepting that it has lost an "e".

The Behavior of Gels

The peculiar grasping proclivity of wet clay that enables it to envelop things and animals, even including people, like a carnivorous plant closing on a fly, is due to the presence of colloidal material which has gelled in the presence of water, and this selfsame property is one of the most essential attributes of a drilling fluid. And here we are again back on the main line afte side tracking all over the place, which certainly shows the danger of paying a Caledonian scribe by the syllable. The mere tendency to gel, however, is not quite enough to satisfy the exacting engineer. He likes the property that is known in the mud lab as thixotropy. It is applied to any substance or mixture of substances that, in the presence of water, gels when quiescent, thins down again when agitated, and reverses this process under the reverse circumstances. And there is good reason for this preference because with a thixotropic mud when drilling is going on, the circulating fluid remains free flowing, carrying the cuttings to the surface and performing its normal function effectively. When drilling stops, on the contrary, the mud thickens and the cuttings are held in a gelatinous grip so that they can't settle to the bottom of the hole and interfere with the drilling procedure. "Thixotropy is from the Greek *thixis,* "touch," and *trope,* "to turn," which probably means that a substance which turns from a gel to a liquid when touched is thixotropic.

Mud Engineering Data

Viscosity has been fully discussed in a prior chapter and it will be easy to realize now that there must be some definite relation between resistance to flow and gel strength. It is obvious also that since gel strength changes during the period between absolute quiescence and maximum agitation, and perhaps even beyond these limits, there is a time element involved which must be taken into consideration when evaluating a thixotropic drilling fluid. It is customary, thus, to first determine what is called the initial gel strength and make another measurement ten minutes later. The two figures so acquired, together with the measure of viscosity form a combination of factors that are most useful to the mud engineer not only in the prior makeup of the fluid for any particular project but also in the subsequent conduct of the

mud program during actual drilling time.

The Cork in the Bottle

The weight of a drilling fluid, that is, the weight per unit of volume, is increased by the addition of inert substances of high density. An inert substance is one that can't react chemically with any of the other components of the mud to form new compounds that are likely to impair its basic qualities. The main purpose of fluid weight is to reduce the possibility of a blowout, in other words, to keep the well from coming in out of control. Earlier an analogy was drawn between a subsurface oil reservoir and a bottle of pop. Carrying on that same line of comparison, the long cylindrical column of mud that stands in the borehole of an oilwell may be regarded as an extremely heavy cork. When the reservoir is finally penetrated by the drill, unless the gas pressure from the oil formation is greater in pounds per square inch than the weight in pounds per square inch of that long mud column, which is very unlikely, the metaphorical cork will remain in the neck of the bottle. The content of the reservoir can later be brought to the surface nice and quietly by removing the cork a little bit at a time. By reason of its weight also, the heavy mud helps to stop any flow of gas or liquid from the sidewalls of the well.

The Main Factors

So now we are to a mild extent familiar with such mud properties as viscosity, gel tendency, thixotropy, and weight. Each of these has its own specific series of effects under any given set of conditions and perhaps some of them have another series when they are in an admixed state. It is the function of the mud engineer to so balance these qualities at all times throughout the drilling project, as to assure the greatest efficiency, safety, and security of the entire drilling operation. This means that he has to be constantly alert to what is going on under the derrick floor and constantly prepared to make such alterations in the character and constitution of the mud stream as are dictated by changing circumstance.

Quiebra Hacha

To this end there are available to him all sorts of substances, liquid and solid, soluble and insoluble, inert and active, that can be added to the drilling fluid, either to produce a desirable quality or to counteract an undesirable one. Chemicals were first used to *thicken* drilling mud but that can put a terrific strain on pumps and is so seldom necessary now that compounding has become a fine art, it is rarely done any more. Thinning agents, or viscosity reducers, however, are widely used, one of the most popular being quebracho which besides being very effective, has the sort of stymology that word sleuths love. If you try to say the Spanish words *quiebra hacha* quickly, you will immediately understand the origin of the name. *Quiebra,* means "break", and *hacha* is from the same root as our word "hatchet." The quebracho is actually a tree from which comes a hard wood that has a tendency to break the lumberman's axe. It is found in the Latin-American countries, particularly Argentina and Chile. The mud thinner is a crystalline substance extracted from quebracho fibers. A purified derivative is also used medically to relieve congestion of the bronchial tract so, in effect, it is used as a thinner there, too. Most of the quebrachos are rich in tannin and their products are extensively employed in the leather industry.

Functional Recap

Reviewing the mud functions briefly at this stage, we find that the fluid is designed to lubricate and keep cool the drilling bit which as the poets say is a consummation devoutly to be wished. In a modern deep hole project thousands of dollars worth of bits are usually worn out before the bottom is eventually reached. Anything, thus, that will extend bit life without reducing bit effectiveness is an economic contribution that is right welcome. Mud also butters the hole for the entry of the casing and since its use began must have saved endless costly hours of wrestling with stuck pipe. It takes no expert to see that such calisthenics are a total loss of time, effort and money. Similarly, the slick sidewalls offer the minimum of friction and enable the drilling string to turn more freely with less abrasion than it would suffer if it were scrubbing against the bare surfaces.

Essentially of Mud

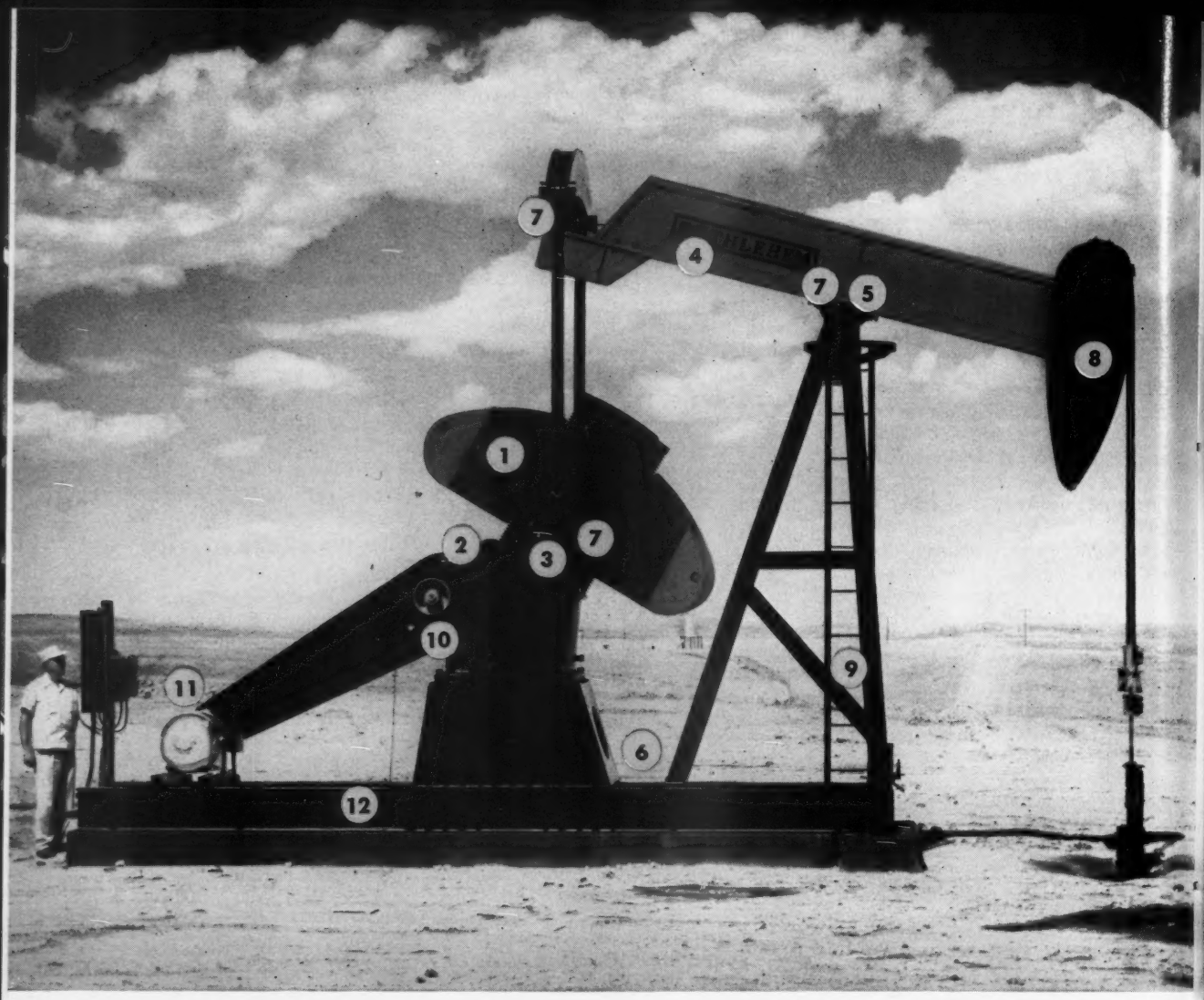
Many twist-offs and fishing expeditions have no doubt been avoided since mud has become such a carefully compounded commodity. As a matter of fact, it is probable that a modern-day deep well could not be drilled at all without the aid of mud science and certainly no modern operator would attempt to drill a deep hole or, indeed, a shallow one, without a carefully devised and rationally applied mud program. Large quantities of mud can be lost in non-consolidated or low pressure porous sections of the underground formations, but properly tailored muds build up light yet very impervious sidewall deposits that minimize any such contingency. They are helpful too in preventing the sloughing of shale or the caving in of other unstable materials that may be encountered by acting as a sort of cementing agent. Finally, the mud column is studiously contrived to serve as a buffer against the suddenly imposed pressure of a freshly penetrated oil and/or gas reservoir, and any additional pressures from higher formations.

What It Is Made Of

Now, let us take a quick look at mud composition and the means by which special qualities are built into it. For a long time naturally occurring clays were used just as is for drilling purposes. The oilwell driller, however, is an inquisitive sort of chap and as the geologists, petroleum engineers, and he himself, became more familiar with the structures that are penetrated by the bit, and the stresses and strains that are encountered on the way down into the earth, he began gradually to realize more fully what his muds were accomplishing and perhaps more important, what they were not accomplishing. He soon saw that heavier muds would give him better control of formation pressures, so he started to add high density compounds to his batch, among others, barium sulphate, which was a very natural choice because its very name means heavy. It is from the Greek *barys,* "heavy," and very finely ground barium sulphate is by far the leader of the currently used weighting agents. It is capable of yielding muds that weigh up to 150 lbs. per cubic foot.

The Advent of Research

Then more and more, the chemist entered the field of mud engineering. He knew that certain clays contained varying quantities of superfine particles capable of forming almost permanent suspensions in water. He knew also that these in some instances these so-called colloids, in combination with water, produced pastes or gels that had a volume frequently much greater than that of the original solids. Then he began to understand why drilling took place a little faster and with a little less trouble when muds of this type were



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used. He could see that these gels gave the fluids extra carrying capacity that was very desirable, and that they were good plastering agents to cement crumbling formations. Then he organized an investigation, experimented with other colloidal materials, and had soon developed lots of pertinent information.

The Carbohydrates

One of the agents in which the mud engineer became very much interested was hydrolyzed starch, and any reader who at the moment happens to be suffering from a red rash along the collar line will be amused to learn that starch derives its name from an old Anglo-Saxon word that means "to stiffen." It belongs to that particular group of organic compounds that the chemist calls "carbo-hydrates" (not to be confused with hydro-carbons) because they are composed of carbon plus hydrogen and oxygen in the same proportion as they occur in water. The Greek name for water is hydor and hydrolyzed starch is just ordinary starch in which the elements of water have been additionally combined.

Of Fermentation

Starch as contained in cereals and potatoes is rather indigestible stuff that is locked up in countless little envelopes made of cellulose which is the kind of carbohydrate you find in paper and straw. Cattle and goats have the particular kinds of grinding mechanisms and chemical plants to handle cellulose and turn it into more digestible substances but the human anatomy is not constituted to handle such stuff. Cellulose actually means "containing cells." Before starch can become available for human consumption and for many other purposes, the little cellulose envelopes must be ruptured and the contents hydrolyzed. This can be done with moist heat as you would steam potatoes, or by treatment with chemicals. If you have ever made your own kite you are familiar with hydrolyzed starches for that is likely what you used to stick the paper edges together. Some difficulty was at first experienced with the use of starch as a mud ingredient because of its readiness to ferment, and the fact that sometimes there are present in a well or in the mud, bacteria that promote fermentation. Fermentation results, first, in the transformation of starch into sugar. Then in this very soluble state, sugar splits into alcohol and carbon dioxide gas. If this happens in the well, it has the same effect on the mud as it does in a loaf of bread. Little bubbles of carbon dioxide are trapped in the viscous liquid. The weight and viscosity of the latter are simultaneously affected and the next step in this series of experiments was to find inhibitors, chemical or otherwise, to stop fermentation. This, of course, was done, and another problem was solved.

Some Personal Advice

Doc Rockwell, one time vaudeville comedian, who almost became a medical doctor before college dramatics drove him into the professional wisecracking business, used to issue an amusing admonition which was somewhat as follows: When you swallow starch in the form of potatoes or bread, a certain group of enzymes immediately attack it and turn the starch into sugar. After that operation, another group of enzymes gather round and change the sugar into alcohol and carbon dioxide. Now, he said, why don't you save your stomach all that bother and take alcohol in the first place. Enzymes are substances that alter foods to a more digestible form. They take their name from the Greek *enzymos,* "to leaven" which means "to raise" as yeast does in bread making.

Filter Cakes

Another phenomenon with which the mud engineer has to contend is filtration loss, that is, loss of water from the mud to porous sections of the formations that are encountered in the drilling process. This is prevented as far as possible by using the proper ingredients to form a thin but impervious cake of solids on the wall face. Then, there is also the possible loss of both liquids and solids in similar situations and to meet this contingency there have been devised a whole series of fibrous additives that tend to bridge over pore spaces in the formation and fashion a matrix like the laths in a plastered wall on which to support an excluding pad of mud solids. These pads or cakes must not be too thick or they may increase the risk of stuck pipe, but the mud engineers have apparently become pretty expert in this department too, for even at the great depths of today's wells, stuck pipe is becoming something of a rarity.

Acids & Alkalis

There is an additional measure that is highly important to the character of drilling mud. That is the degree of alkalinity or acidity. They call it hydrogen ion concentration which I will not attempt to explain here. The mud experts use a symbol, pH, for this factor which has a great deal to do with the control of gel strength viscosity, and the general behavior of colloids. Alkali is a derivative of the Arabian word *alquili* which refers to the ashes of a plant, called the salt wort. A wort is any kind of an herb, from the Anglo-Saxon word *wyrt,* "root," and the salt wort was probably so-called because it did yield a high percentage of these alkaline salts on being burnt. Acids take their name from the Latin *acidere,* "to be sour" and they are all characteristically sour to the taste. Our forefathers for centuries have made soap from the ashes of burnt wood which were alkaline in nature. It is a property of acids that when interacted with alkalis they form salts, so that in effect they are chemical opposites. An acid can be used to neutralize an acid and, of course, the converse action can also take place.

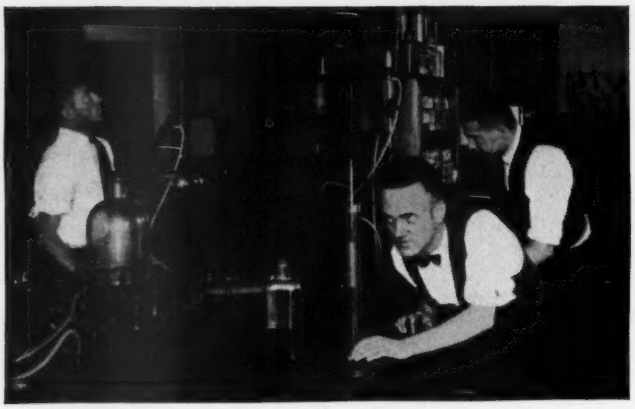
Variations in Quality

Perhaps the action of alkalinity and acidity can best be explained by recounting some personal experiences. I recall that in my cereal chemistry days we used to knead ordinary bread flour under the water tap until all the starch was gone. That left only the gluten which was the nitrogenous or protein element. This was of a rubbery consistency and, indeed, looked just like a piece of crude rubber. In the course of some research work, we took a number of these wads of gluten (which, by the way, also takes its name from glue) and suspended them in various concentrations of acid and alkali. Although these concentrations were very low, they had the most amazing effects on the gluten. We found that we could contrive a whole range of effects from near solidity to complete liquidity. And, this is undoubtedly what happens to gels and viscous materials in drilling muds. They are susceptible to an infinite variety of changes in physical character in the presence of foreign elements. Meantime, it may be assumed that the mud chemists by experimentation and actual practice have become pretty thoroughly familiar with all these effects and their immediate causes.

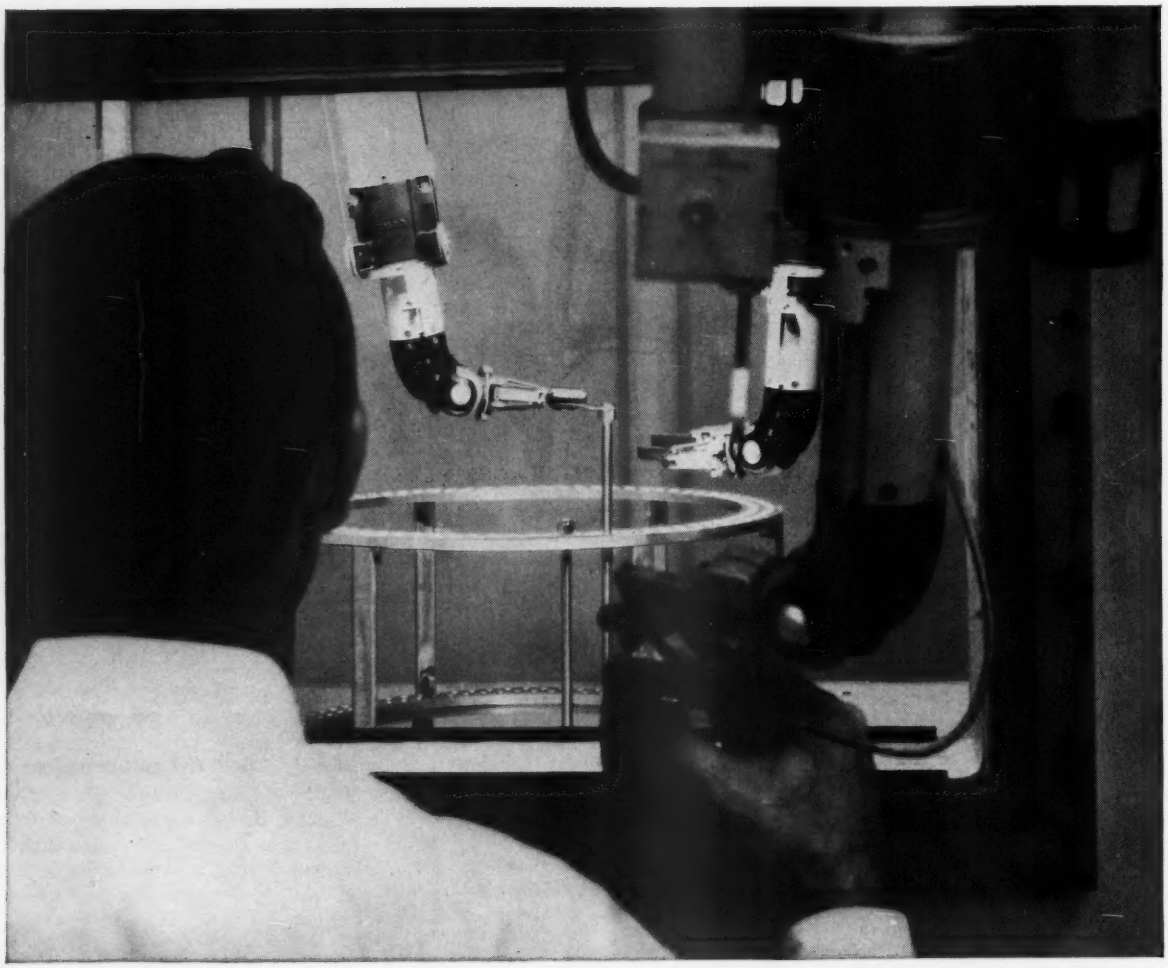
Applied Research

The complexity of the mud problem may be mildly realized when it is remembered that the interaction between components of the mud and substances encountered during the drilling, particularly in a wildcat area, are impos-

Oil research—from test tube to radioactive cobalt



YESTERDAY. Decades ago, Texaco scientists worked with relatively crude laboratory equipment, as they probed the fundamental mysteries of oil. Nevertheless — though early oil research was primitive — it resulted in important improvements in petroleum products. Many of these improved products were pioneered by Texaco.



TODAY. Texaco scientists continue their search for basic petroleum knowledge, now using such ultramodern tools as radioactive Cobalt-60 in one of the world's most fully-equipped industrial research laboratories. This is only part of Texaco's great research center at Beacon, N. Y., one of the Company's four modern research centers. Hundreds of Texaco scientists are continually working to create new and better products for more and more people.

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sible to predict. Also the behavior of the mud is dependent on a dozen and one other factors, including formation pressure, permeability of the producing horizon, its porosity, temperature, etc. Despite all the involvements, there is ample evidence that the present status of applied science has been responsible for great savings in time, equipment, frayed nerves, and production. In the meantime, too, we have largely neutralized human frailty by the development of automatic devices for measurement of the pertinent factors. All manner of intimate research work is being done on actual cores of formation material, and there are functioning various logging instruments for continuous evaluation and coordination of such items as sand and lime cuttings, depth, combustible gas and oil content, rate of drilling, and the physical factors already enumerated.

Oil Base Muds

The industry has injected some variety into its mud development program by the production of oil-base muds that serve a very essential purpose. It is known for instance that fresh water tends, in some instances, to affect the permeability of the oil sand and reduce the ultimate yield of oil and in such instances drilling into the formation with oil-base mud has become standard procedure. Experimenters in secondary recovery methods have found the presence of bacteria even in the make-up water may impair the permeability of the sands, so now we are concerned with bactericides. In this connection, it is interesting to note that oil sands are much less permeable to fresh water than they are to salt water, the difference in some cases being as much as sixty times greater for salt water.

The Future of Fluids

The entire subject has become a major project with the petroleum industry. Some of the most modern production research laboratories of today, under the direction of the finest chemists, physicists, and engineers, are making a searching examination of the mechanics of drilling fluid operations. Theories are being checked and every chemical reaction and every physical quality involved are matters of constant study. The latest methods of precision measurement are being employed. The electron microscope, X-ray, diffraction machine, and a host of specially devised instruments and implements are now helping to dig out essential information. There is every hope that the continuity of this concern will still further improve the drilling techniques of the future, and correspondingly increase the ultimate oil yield.

API Prexy Sees Peak In Domestic Demand

On the eve of the industry's centennial anniversary, Frank M. Porter, president of the American Petroleum Institute, has announced that domestic demand for oil products will reach another all-time peak in 1958. He said it will be up about 1½ per cent over 1957.

This represents the 16th consecutive year that domestic demand has topped the previous year—but President Porter cautioned against misinterpretation of this fact because total demand, which is more accurate as a barometer of oil's over-all operations, will be down for the first time since 1946.

He said total demand—which includes exports—will be off about 1⅔ per cent. Explanation for this decline, he continued, is to be found, at least in part, in the fact that European demands upon U. S. petroleum supply, as a result of the Suez crisis, caused the American industry's 1957 foreign shipments to show totals considerably higher than would normally have been expected for this period.

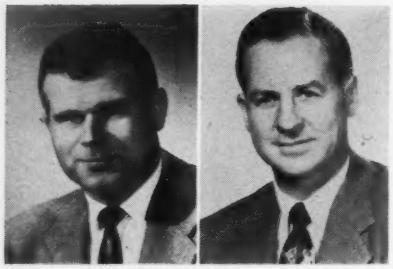
The 1958 exports, in comparison, therefore, showed an anticipated large decline, and affected this year's total demand adversely.

In spite of an increase in domestic demand and a general improvement in inventories, the year as a whole was not a particularly good one, Porter said.

BREAKING GROUND FOR R. M. PYLES BOYS CAMP BUILDING AT HUNTINGTON BEACH

Left to right—F. E. Fairfield of Oil Tool Corp.; Bob Pyles, of Signal Oil and Gas Company, founder of the Boys Camp; Warren Johnson of Standard Oil Company of California; John Robinson of Macco Corp.; Ed Hendricks, engineer in charge of construction; George Suman of Tidewater Oil Company; Earl Wilson of Standard Oil Company of California; Ray McKee of Macco Corp. The buildiing wiill be winter headquarters for the Boys Camp and will combine office facilities for the full-time, year-round staff of the youth organization and recreation facilities for the boys who have spent summer months in the Sierra Camp.

Personalities IN THE NEWS



Jack J. Leener Richard A. Ny

Tidewater Names Treasurer and Ad Manager

Richard A. Ny has been elected treasurer of Tidewater Oil Company, according to announcement by President **George F. Getty II.**

Prior to Ny's election, the treasurer's position was held by **Russell D. Richardson,** who continues as vice president-finance and controller.

Ny joined Tidewater in 1938 as a tax clerk in San Francisco, served as a tax accountant from 1944 to 1950, and as western division paymaster from 1951 to 1954. In the latter year he became an assistant treasurer of the company.

Jack J. Leener has been appointed advertising manager of Tidewater according to an announcement by **J. Ronald Getty,** manager of marketing.

For the past 10 years Leener has served as a senior account executive for the Edward S. Kellogg Company, Stromberger, LaVene, McKenzie Agency and West-Marquis, Inc., all advertising agencies in Los Angeles.

From 1946 to 1949 he was public relations director for the Los Angeles Junior Chamber of Commerce. Prior to that he was a United Press staff correspondent in Los Angeles.

John R. Rock has been named employee relations manager of Tidewater Oil Company's western division. Also announced was the appointment of **Robert L. McKinnon** as assistant division employee relations manager.

Personnel Changes by McCullough

O. J. McCullough, Vice President of McCullough Tool Company, has announced several personnel changes in the company's Eastern Division. **W. H. Harvey** has been promoted to district sales and service manager of the Victoria, Texas District. Formerly an area salesman, headquartered in Dallas, Harvey has been with McCullough since 1947.

David M. Glass has transferred from Luling, Texas to Victoria as district sales representative. **A. D. Wilson** is now at Breckenridge, Texas as district sales representative and **Charles A. Marion** is at Luling as southwest area salesman.

Bill Rimes has been appointed as district sales representative at New Iberia, Louisiana. A veteran of many years in oil field service work, Rimes was district manager for another service company before joining McCullough.

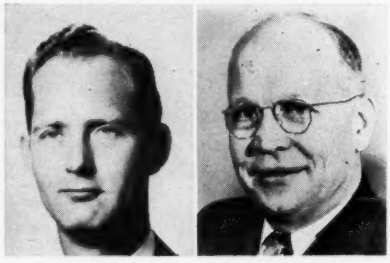
Recently promoted to positions of district sales representatives were **Jack N. Lawson,** Salem, Illinois; **Benjamin A. Newton,** Hays, Kansas and **Robert W. Sullivan,** Olney, Illinois. The latter three were all previously service unit operators in their respective districts.

Norman Brookes, Canadian Division Manager of McCullough Tool Company has announced the appointment of **L. M. "Pete" Oaks** as special representative—fishing tool and wire line services with offices in Calgary, Alberta. Formerly district sales and service manager for Saskatchewan and Manitoba, Oaks has been with McCullough Tool Company for 15 years, the past eight of which have been in Canada. He will serve primarily as a consultant to the oil industry on fishing tool and electric wire line services.

Johnston Testers Reorganizes Field Offices

D. C. McCann, President of Johnston Testers, has announced the reorganization of Johnston's field offices.

B. R. Dixon, formerly assistant to the president, will be the division manager of the Northern Division, with headquarters in Denver, Colorado. The Northern Division contains the California, Rocky Mountain and Kansas-North Texas-Oklahoma areas. He joined Johnston Testers in 1953 as a sales engineer, was promoted to assistant sales manager in 1957 and to presidential assistant last summer.



B. R. Dixon B. L. Majewski

Majewski Elected to UOP Board of Directors

Bernard L. Majewski, president of Great American Oil Company, Chicago, has been elected to the board of directors of Universal Oil Products Company, Des Plaines, Ill., **David W. Harris,** chairman, announced. He fills the board vacancy resulting from the resignation of Fred C. Koch.

Mr. Majewski, who recently completed 20 years as a member of the Chicago Board of Education, is a director of the American Petroleum Institute and a director of the Independent Petroleum Association of America. He has been associated with the oil industry since 1909. He also is president of Signal Perfect Fuels, Inc., and a director of Crescent Corporation.

Brown Companies Elect President

Arthur J. (Art) Heiser has been named president of both the Brown Drilling Co. and International Brown Drilling, as announced by **E. C. (Ned) Brown,** founder of the California companies.

Art Heiser, a graduate of the Colorado School of Mines, and former operator of his own oil drilling company, Green-Heiser of California, has been associated with the Brown concerns as vice president since 1957 when the Sofina Corporation, a Belgian based international utility company, purchased a controlling interest in Brown. Before he started in Green-Heiser firm, he was also employed by Brown for a five year period during which his duties included bidding, sales and engineering tasks.

The announcement, made in the Long Beach headquarters of the two associated companies, included news of the decision by Ned Brown to step down from an active position in the drilling business he founded in the beginning period of the West Coast oil industry. Since the Sofina transaction, Brown has served as chairman of the board of his companies, a position he will retain under the new arrangement, which went into effect January 2, 1959.

A Brown operation will be among the first explorations into newly opened petroleum drilling sites in the dense rain forests of Guatemala. A mass of portable equipment is being broken down into air freight size packages and is being airlifted from a coastal take-off point into the trackless jungle.

Kern County Transfers California Men

R. G. Reese has been named manager of Exploration for Kern County Land Company, with headquarters in San Francisco, Calif. Reese was formerly manager of KCL's Canadian District Office in Calgary, Alberta, Canada.

R. E. Horton is transferring to Jackson, Mississippi, where he will be District Geologist for the new exploration program. Horton previously worked as a geologist in the company's oil division in Bakersfield.

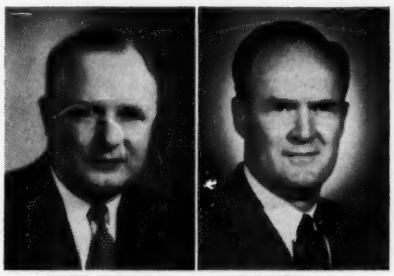
Standard Appoints V.P. and G.M.

Appointment of **S. W. Totten** as director, vice president and general manager of exploration for Standard Oil Company of California, Western Operations, Inc. has been announced by Western Operations president, **H. G. Vesper.**

Totten succeeds **O. F. Van Beveren** who has been named vice president of American Overseas Petroleum Limited. This Company conducts exploration and producing activities over a large portion of the Eastern Hemisphere and is jointly owned by Standard of California and The Texas Company.

Totten's appointment, effective February 1, will bring him to San Francisco from Denver where he has been serving as vice president of The California Company, Standard's mid-continent production, exploration and marketing subsidiary which is headquartered in New Orleans. He will be succeeded there by **H. C. Bemis,** former superintendent of Western Operations' Southern California exploration district. .

In his new post, Totten will direct Standard's exploration activities throughout the eight western states with particular emphasis on operations currently underway in Alaska and the recently opened offshore lands of California.



S. W. Totten **John Douma**

Douma Heads Sunray's West Coast Operations

John H. Douma, manager of joint operations for Sunray Mid-Continent Oil Co., Tulsa, has been named vice-president and manager of the company's West Coast division, Los Angeles, succeeding F. W. (Dick) Borden, resigned. The announcement of Borden's resignation was made in Los Angeles by Borden and **W. C. Whaley,** president of Sunray Mid-Continent, who immediately named Douma to the position.

Borden joined the company in 1930 as a roustabout, advancing through engineering and supervisory promotions to become manager of the Sunray production division in May of 1955. He has not announced future plans except that he expects to devote his future to personal interests.

Douma will be returning to the California division where he first joined the company in 1938 as a field production engineer. In 1946 he was transferred to Tulsa general offices, becoming successively staff engineer, assistant general superintendent, general superintendent, and in 1954 was named manager of engineering services for Sunray. He became manager of joint operations in February 1956, and has been responsible for oil and gas production dealings with other operators over the wide area of the mid-continent in which Sunray operates.

Petroleum Club Elects Officers and Directors

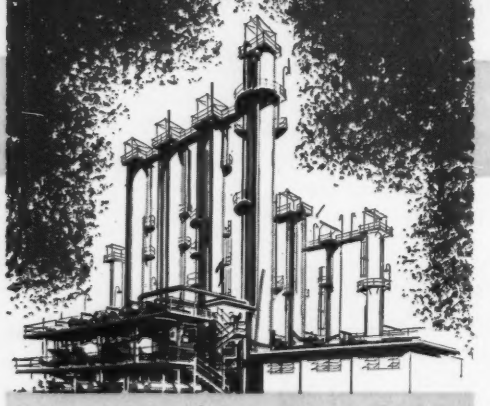
At the annual meeting of the Board of Directors of the Petroleum Club of Los Angeles held on January 14, 1959, the following officers were elected: **Dudley Tower** of Union Oil Company, President; **Earl Hightower,** of Hightower, Gregg and Garland, Vice President; **Gordon D. Campbell** of General Petroleum Corp., Treasurer; **Richard Sneddon,** Club Manager Secretary.

It was announced also that three new directors were elected for a three-year term, namely, **Fred B. Behrens** of Richfield Oil Corp., **R. A. Keans** of Keans, Springmann & Stipek; and **E. Pick McIver,** consultant, formerly of Shell Oil Company.

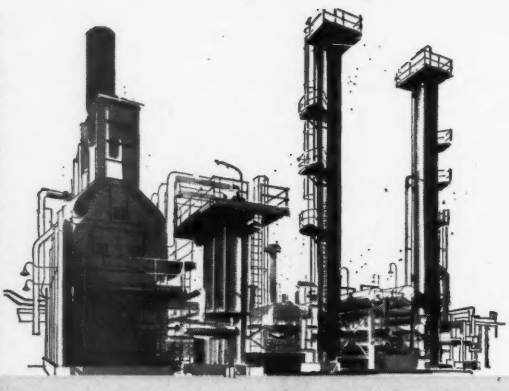
Signal Appoints Head Geologist

Signal Oil & Gas Company has appointed **Loring B. Snedden** as head geologist. Snedden has been with Hancock Oil Co. since 1954 when he joined them as chief geologist. Snedden was president of Intex Oil Co. from 1952-1954. Prior to that he was associated with The Texas Company for 18 years.

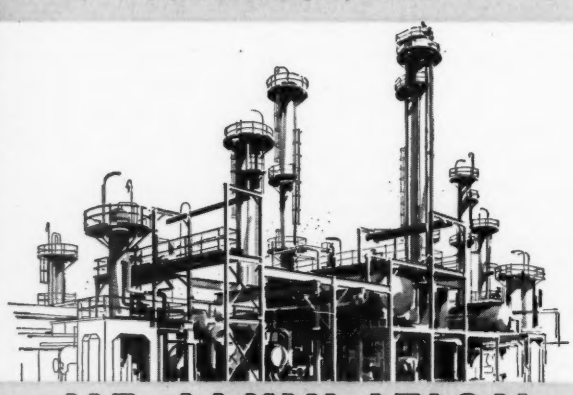
Now any refiner can process any crude he wants...



UDEX® the ideal process for separation of super-purity aromatics



PLATFORMING® produces high octane gasolines, high purity aromatics



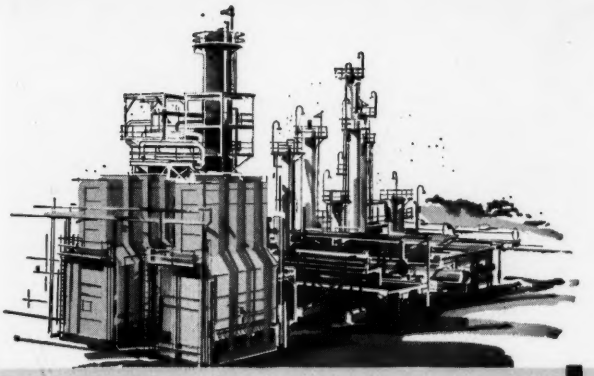
HF ALKYLATION makes alkylate, top anti-rumble motor fuel

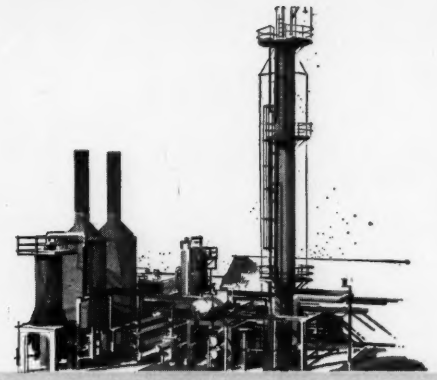
other

Never before could the petroleum refiner accomplish what he can today. Regardless of the sources and nature of his crude supply—or the kind of petroleum or petrochemical products he wishes to produce—Universal can furnish invaluable aid in helping achieve his objectives.

From its nineteen different processes currently available, Universal is in an unparalleled position to provide you with technical knowhow. From analysis of product and market potentials and evaluation of crude supplies through to process design, engineering, operator training and field and laboratory service, UOP is equipped and ready to work with you every step of the way.

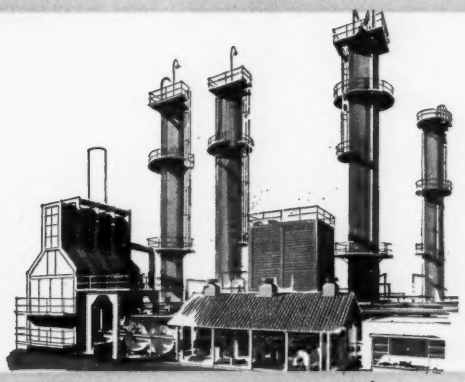
Write for information. Consultation is invited on any processing problem.





BUTAMER* a new and practical process for producing isobutane

UNIFINING* a modern process that completely purifies petroleum distillates



FLUID CATALYTIC CRACKING an improved process that gives higher yields, higher octane numbers

PENEX* new process converting light, normal paraffins to isoparaffins

processes available from UOP

REXFORMING®
the ideal process to insure your top octane position

UNISOL®
a safe and economical process for low-cost gasoline finishing

VACUUM DISTILLATION and VISBREAKING
simple, easy to operate processes for preparation of feed stocks for catalytic cracking

L.P. COKING
permits adjustment of gasoline-to-heavy oils production ratio to meet market needs

THERMAL CRACKING
two-coil selective process, handles wide range of charging stocks

CATALYTIC CONDENSATION
converts olefin fractions of refinery gas into high-quality gasoline and petrochemicals

OLEFIN EXTRACTION
efficiently separates olefins and diolefins from paraffins. Also prepares olefins for further conversion

CATALYTIC DEHYDROGENATION
removes hydrogen from hydrocarbons to produce less saturated hydrocarbons

HYDRAR*
converts benzene to cyclohexane with excellent yields. Extreme high purity achieved with Udex grade benzene

AROSORB
removes heavier aromatics from synthetic and natural distillates, produces aromatic-free heavier distillates

ALKAR*
produces ethylbenzene, cumene and other alkylated aromatics from Fluid Catalytic Cracker off-gas streams

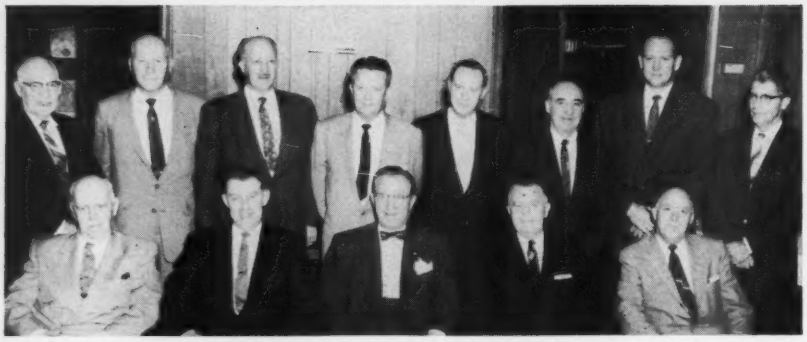
SULFURIC ACID ALKYLATION
produces alkylate, blending component for high-octane gasoline

*TRADEMARKS

UOP® UNIVERSAL OIL PRODUCTS COMPANY

30 ALGONQUIN ROAD, DES PLAINES, ILLINOIS, U.S.A.

More Than Forty Years Of Leadership In Petroleum Refining Technology



Officers of the Los Angeles Chapter of Nomads for 1959 were elected at the Annual Business Meeting on January 14th. Shown are the outgoing and incoming officers:—from left to right (back row) Leo Cypher of Baash-Ross Tool Company, Secretary 1959; Andy Anderson of Pacific Perforating Company, Sergeant-at-Arms 1959 (Deputy Sergeant-at-Arms 1958); C. F. Van Loozen of Power Rig & Equipment Company (Treasurer 1958); Taylor Bannerman of Technical Oil Tool Corporation, Vice President 1959 (Assistant Treasurer 1958); Charles M. King of Baker Oil Tools, Inc., Assistant Secretary 1959; P. M. (Shorty) Bowen of Martin-Decker Corporation, Assistant Treasurer 1959 (Assistant Secretary 1958); Arthur S. Marshall of H. C. Smith Oil Tool Company, Deputy Sergeant-at-Arms 1959; Knight Templeton of S. R. Bowen Company, Treasurer 1959 (Secretary 1958); (front row) Earl R. Atkins of Devex Engineering Company (Vice President 1958); Robert P. Gaylord of Wagner-Morehouse, Inc., Senior Regent 1959 (Junior Regent 1958); Earl M. Daniels of Hydril Company, Junior Regent 1959 (President 1958); Tom Ashe of Globe Oil Tools Company, President 1959 (Sergeant-at-Arms 1958); Harry Hester of McCullough Tool Company (Senior Regent 1958).

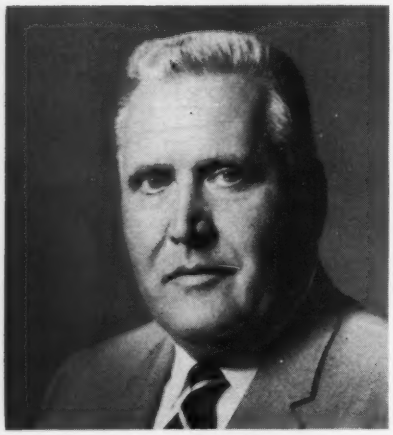
In Memoriam

CHARLES K. BELL

Charles Kenneth Bell, assistant secretary and assistant treasurer of Reed Roller Bit Company, suffered a fatal heart attack in his office about 9:15 A.M. Monday, January 5, 1959. He was 48 and had been with Reed for 18 years. Bell had returned to his job recently after having been first hospitalized for a heart attack last October. He joined Reed Roller Bit in 1939 and had held his last position for eight years.

E. A. PARKFORD

E. A. Parkford, pioneer independent oil producer, passed away January 3rd at Rancho Santa Fe. Mr. Parkford had been active in California oilfields since the early 1920's, principally in the Santa Fe Springs and Signal Hill boom days.



A. J. Lasken, Jr.

Keenan Pipe to Distribute National Tube Oil Products

Appointment of Keenan Pipe & Supply Co. as a distributor of National Tube oil country tubular products was announced today by Albert J. Lasken, Jr., vice president of Keenan's oil and industrial division.

In addition to maintaining a substantial inventory of oil country tubular products, Keenan has available drilling bits, tool joints, drill pipe protectors, casing guides, casing shoes and collars, drill collars and allied products for the oil industry. Among Keenan's many other prominent oil and industrial lines are Walworth Lubricated plug valves and other products. Ladish's complete line of carbon, stainless and alloy fittings, Consolidated relief valves and Hancock forged steel valves. The oil industry will be served by Keenan's headquarters in Los Angeles, a branch in Bakersfield and another oil field branch to be announced shortly.

Johnston Stainless Welding Rods

PROVEN QUALITY SINCE 1931

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JOHNSTON STAINLESS WELDING RODS INC.

1845 E. 57th St. - Los Angeles 58, Calif.

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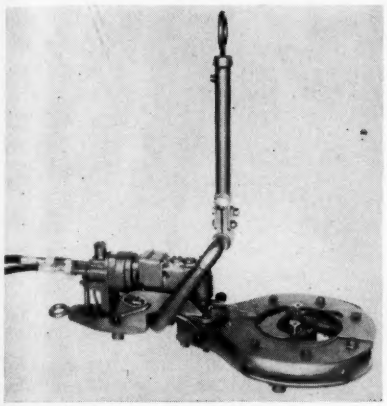


Hillman-Kelley Hydraulic Power Tubing Tong.

Hydraulic Tubing Tong

A new hydraulic power tubing tong for fast, smooth, economical operation has been announced by Hillman-Kelley. Tongs feature quick, easy change of jaw sizes and a six contact point jaw design which ratios gripping action to the torque required. The new jaws positively will not crush A.P.I. tubing and minimize die cutting or gouging of new high-strength tubing.

Additional features include the elimination of cumbersome piping, hoses and fittings by unit construction of valve and motor, a new gear type hydraulic motor, a streamlined case and easy-grip handles with a new roll-over design for added efficiency.

For further information write Hillman-Kelley, 1000 Macy Street, Los Angeles 33. California.

Plastic Paving For Jet Age

Shell Oil Company has announced the development of a new super-tough, plastic-and-asphalt concrete paving. Created to meet severe conditions imposed by heavy new jets on airport runway and maintenance area pavements, Epon Resin asphalt concrete combines petroleum - derived epoxy resins and asphalt to make an almost indestructible concrete. The first commercial application was made recently at San Francisco International Airport. Three and one-half acres surrounding United Air Lines' new jet maintenance base received a half-inch overlay of the new plastic pavement.

According to Shell engineers, the material will withstand the blasts from jet engine exhausts without damage. It also resists solvent action from spilled jet fuel, gasoline, hydraulic fluids and cleaning solvents. Epon Resin asphalt concrete's strength and resilience provide a pavement able to withstand the tremendous weight of new super bombers and passenger planes. Its resistance to wear makes it a natural for highway resurfacing where heavy traffic is encountered, and will materially reduce the thickness of pavement needed for new highway construction, Shell said.

According to Shell, the new plastic pavement is petroleum asphalt with Epon resin and a plasticizer added. It can be formulated in standard hot-mix asphalt plants and applied with conventional paving machines and rollers.

Stainless Steel Electrofining Unit

The Petreco Division of Petrolite Corporation has announced the installation of the first Electrofining unit of entirely stainless steel construction. Installed in a large eastern refinery, the precipitation unit will be used to remove the slurry from an aluminum chloride catalyzed alkylation process. Preliminary pilot plant runs indicate that the aluminum chloride complex will be reduced from 0.7 volume percent to around a volume percent of 0.03. This reduction will cut caustic consumption and result in the production of a higher quality alkylate.

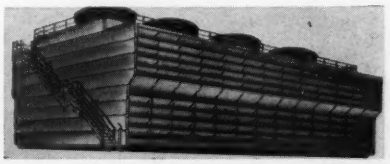
Petreco Electrofining precipitators are currently used to remove unsaturates and improve the bromine number of alkylates from both the aluminum chloride and sulfuric acid processes. This latest installation, however, is the first instance wherein stainless steel treating equipment has been specified.

New Cooling Tower Design

Awarding of a contract by Argonne National Laboratory to Slough-DeFlon, cooling tower engineers of San Marino, California, for a new type of cross-flow cooling tower for use in the country's newest and largest atomic power plant now under construction at Arco, Idaho, has just been announced.

The tower has a cooling capacity of 24,000 gallons and will embody many significant design improvements. Included is a new method of fill construction which increases fill strength over that of any other type now in use, elimination of distributing decks by means of a new nozzle distribution system, high Venturi stacks fabricated from redwood plywood, and a novel shape which promises considerable savings in tower basin construction without sacrifice of performance. Equipment includes 22 ft. diameter fans and 75 h.p. electric motors.

Towers of similar design with 24 ft. diameter fans and up to 150 h.p. electric motors will soon be made available by Slough-DeFlon to industry for general use, it is understood.



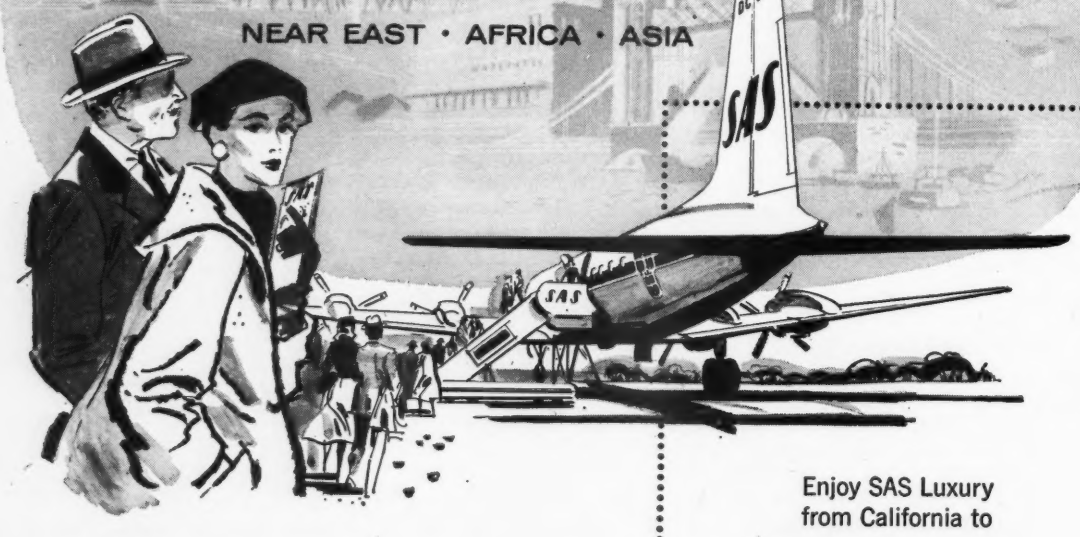
Cooling tower being built by Slough-DeFlon, San Marino, California. Distinctive overhang reduces tower base requirement by twenty percent.

America makes

SAS

One of the "Big 3" to Europe

NEAR EAST • AFRICA • ASIA



Though there are a dozen airlines to Europe, passengers by actual count make SAS one of the "Big 3" to the Continent. And only SAS flies the direct polar route from California to Europe . . . to all the Near East and Africa.

Magnificent DC-7C Global Express

Fly the fastest, quietest of all airliners, over the polar short-cut from Los Angeles to Europe. Luxurious first class service offers regal meals, champagne, spacious berths to make your trip a handful of splendid hours. Tourist class has exclusive SAS Comfort-Line seating which gives you more room to read, dine, sleep. Global Express flights direct from New York to all Europe, too.

For Travel or Cargo Reservations—See your Agent or SAS . . . 8929 Wilshire Blvd., Beverly Hills, Calif.

Enjoy SAS Luxury from California to

ABADAN • CAIRO
ANKARA • DAMASCUS
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FIRST OVER THE POLE

SAS
SCANDINAVIAN AIRLINES SYSTEM

West Coast Offices: Los Angeles • San Diego • San Francisco • Seattle • Vancouver

Equipment Continued

New High-Pressure Dump Valve

Black, Sivalls & Bryson, Inc., manufacturers of controls, oilfield and gas processing equipment, introduces a new high pressure dump valve for use in the production of oil and gas. Designed for dumping liquid from pressure vessels, the valve is actuated by a displacement type liquid level controller or other piloting device capable of an air output of 6-30 psi. It is also ideal for "stop cocking," and although primarily designed for on-off service, it can be used for limited throttling range applications.

The new valve is available in 1" and 2" sizes with either a 3000# or 6000# CWP rating. Bodies are of forged steel and furnished standard with either screwed or socket welding connections. Valve bodies are available in globe, angle and special angle adaptable to cold weather services.

Inner valve and seat cages are available from ¼" through ⅝" in the 1" body and ¼" through 1¼" in the 2" body. Standard material is 17-4 precipitation hardened stainless steel, however, Carboloy is available for very severe service conditions. One inner valve fits all seat cages within a body size and inner valves and seats may be changed with conventional hand tools. All closures are "O" ring sealed.

Actuator is completely reversible in the field with no additional parts needed to convert from "air to open" or "air to close" and vice versa. Diaphragm material is Buna-N Nylon reinforced. Diaphragm cases are pressed steel treated for corrosion resistance. Inner valve position indicator is located at the top of the valve.

Catalog 70-18, which includes sectionalized drawings, maximum shutoff pressures, and flow coefficients, is available upon request—Black, Sivalls & Bryson, Inc., 7500 East 12th Street, Kansas City 26, Missouri.

SMITH-EMERY CO.
Chemists—Engineers
Established 1910
Metals—Oils—Waters
Analyzed and Tested
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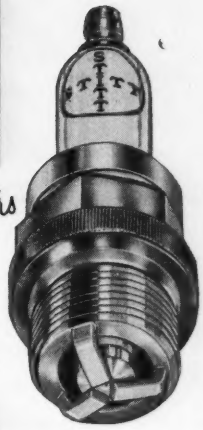

new triple ignitors
Original Equipment In These Gas Engines
CLARK
WAUKESHA
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To get better service from your engines—regardless of make—send for FREE Pocket Catalog and Application Chart that specifies the RIGHT plug for ALL your engines. We'll also send you Field Reports which prove STITT New Triple Ignitors give better performance because they hold their gap setting longer.

583
STITT IGNITION CO.
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STITT MAKES HEAVY DUTY INDUSTRIAL SPARK PLUGS

Bethlehem to Distribute Rolo Products

An agreement to distribute products of the Rolo Manufacturing Company through Bethlehem Steel Company's Supply Division, was announced jointly today by the two companies.

Robert K. Franklin, President of Rolo, with headquarters in Houston, said that all oil well meters, gas dehydrators and other oil and gas production units manufactured by his company will be available through Bethlehem Supply's 66 oil country store and offices.

C. R. Zimmerman, Vice-President of Bethlehem's Supply Division, Tulsa, said his firm will assign 15 specialists to Rolo for training after which they will return to district offices and stores to supervise sales, installation and service of Rolo equipment.

A pioneer in crude oil metering, Rolo produces a complete line of well-checkers, oil and water meters, metering-separators, free-water knockout units, calcium chloride gas dehydrators, custody transfer meters and various types of line meters.

Bethlehem's Supply Division with its 300 sales and service representatives is a major distributor of oil country goods, handling all types of drilling, production and processing equipment in addition to its own engineered specialty items.

Top officers of the Rolo Manufacturing Company and Bethlehem Steel Company—Supply Division, gathered in Houston to participate in the consummation of an agreement whereby Rolo products will be distributed by Bethlehem. Left to right are J. V. Spaulding, General Manager of Sales for Bethlehem, Tulsa; C. H. Seger, Jr., Assistant Vice-President and Treasurer of Bethlehem, Tulsa; C. R. Zimmerman, Vice-President of Bethlehem, Tulsa; R. K. Franklin, President of Rolo, Houston; W. M. Boren, Vice-President of Rolo, Houston, and R. O. Branyon of Bethlehem, Sales Manager-Rolo Product, Houston.

Field Development

Pacific Coast and "4" Corners

LOS ANGELES BASIN

Wilmington Deeper Pool Discovery

Zephyr Oil Company's Banning No. 8-5 (as reported in the First January issue of California Oil World) was completed on the last day of 1958 as a new pool discovery producing from the Schist Zone. Located in Section 29-4s-13w, near the intersection of Pacific Coast Highway and Eubank Street, the well flowed at a 450 b/d rate, and on a later test production was 432 b/d of 28 gravity oil, cutting 0.1 per cent through a 32/64" bean. Total depth of the hole is 6698 feet and has 7" casing cemented at 6315 feet.

Zephyr's second well located 275 feet north of Robidoux St. and 275 west of the east boundary of Lot 10 has been completed at a total depth of 6694 feet with pipe set at 6340 feet.

General American Oil Company of Texas is preparing to redrill and deepen Banning No. 5 in Section 29-4s-13w, expecting to encounter the same zone between 6600-6700 feet. Other operators who have leases in the area, and will probably start development, are Cooper and Brain, V. R. G. Wilbur and Cleveland Petroleum Co..

Gilmore Island Development

The Gilmore Company has received approval to drill on the 108-acre Gilmore Island area bounded by Beverly Boulevard, Gardner Street, Third Street and Fairfax Avenue. The City Attorney is preparing an ordinance which will allow three exploratory wells to be drilled with a maximum of ten wells to be drilled later.

Orange County Test Abandoned

Shell Oil Company has abandoned Olinda Four No. 47-14, a wildcat test in Section 14-3s-9w, one mile southeast of Union Oil's Del Giorgio pool. The well was abandoned at a total depth of 7695 feet.

Rosecrans Well Tests

G. R. Nance is preparing for a production test on Bucher No. 1, a southeast extension test of the field in Section 20-3s-13w. The test reached a total depth of 8035 feet and has 7" casing cemented at 7700 feet.

Huntington Beach Wildcat Abandons

The Texas Company's Cleaver No. 1, located one mile north of the Huntington Beach field in Section 27-5s-11w, has been abandoned. Originally scheduled as a 10,000 foot test, the well was abandoned at a depth of 8759 feet.

Texaco Honor Rancho Test

The Texas Company is grading location for Honor Rancho-A No. 26, a northwest outpost test in Section 7-4n-16w.

General Petroleum Leases At Venice

General Petroleum Corp. has acquired oil and gas leases in a 240-acre area in the Venice area of Los Angeles and hopes eventually to drill there. The leases were taken last year by Keans, Springmann & Stipek, Inc. and acquired by General Petroleum by assignment. The leases are between 6th Avenue and the ocean front, and between Santa Monica's south City boundary line and Windward Avenue. General Petroleum will proceed immediately to acquire additional leases to comply with the present city requirement that 75 per cent of the mineral rights be signed before an area can qualify as a drilling district.

SAN JOAQUIN VALLEY

Paloma Wildcat Test

Atlantic Oil Company, General Petroleum Corp., and F. E. Fairfield have joined forces and are grading location for KCL No. 71 in Section 21-32s-27e. The test, slated to go to 15,000 feet, is 2½ miles southeast of Paloma field production.

Texaco Edison Test Abandons

The Texas Company's Stevenson Estate No. 1 in Section 35-29s-28e, two miles northwest of the Edison Field, drilled to 7890 feet and after running an electric log and taking sidewall samples, has been abandoned.

Wheeler Ridge Test Abandons

Richfield Oil Corp.'s ROC-KCL-G No. 87-23, located in Section 23-11n-20w, has been abandoned at a total depth of 12,178 feet. Before abandoning, the hole was redrilled from 9895 feet to 10,595 feet.

Semitropic Gas Test

Western Empire Petroleum Co. is moving in rotary for a northwest extension test of the field. The test, Superior-Western No. 1, will be drilled in the southwest-quarter of Section 1-27s-22e.

Kern County Gas Discovery

Golden Bear Oil Company, Operator, completed Garrison City Unit No. 1 in Section 9-28s-24e as a new gas field discovery flowing in excess of 5000 MCF/ gas with pressures of 2200/750 psi, and was shut in. This new field discovery, four miles southeast of the Semitropic Gas Field, was drilled to 5985 feet and cemented 5½" casing on bottom at 5985 and gun perforated 5940-45 feet. Production is from the Mitchel Sand in the Lower Etchegoin. Golden Bear Oil Co. is acting as operator for itself, The Superior Oil Co., Tidewater Oil Co., The Mitchel Co., and Gerald L. Rosen.

Maricopa Deep Wildcat Test

The Ohio Oil Company is ready to spud KCL-Q No. 15-5 located near the west-quarter corner of Section 5-11n-22w. The test, scheduled to be drilled to 11,000 feet, is approximately 3½ miles north of the Los Lobos field. Camay Drilling Co. will drill the well.

Bakersfield Test For Union

Union Oil Company has spudded Oakstreet No. A-2, its second test of the area. With the surface location near the east-quarter corner of Section 26-29s-27e, Union recently abandoned

Oakstreet No. 1 at a total depth of 7129 feet, which was directionally drilled under the residential area of Bakersfield.

Rosedale Test for Humble

Humble Oil and Refining Co. is drilling KCL-G No. 1 in the northeast-quarter of Section 23-29s-26e. The test is located approximately 3000 feet easterly of Rosedale Field production.

Buena Vista Hills Completion

Tidewater Oil Company registered two completions in the field. Well No. 526 in Section 20-31s-23e on a flow test through a 20/64" bean was good for 1058 b/d of 30 gravity oil cutting 0.8 per cent with 690 psi flow pressure. The well was drilled to 5619 feet and plugged back to 5568 feet and has 7" casing cemented at 5121 feet. Tidewater-Richfield No. 515 in Section 20-31s-23e was completed flowing 920/bd of 31 gravity oil cutting 0.1 per cent from a depth of 5560 feet. The 7" casing is cemented at 5115 feet.

Mountain View Completion

Union Oil Company completed Hancock-Shaffer-Brite No. 77-16 as a new zone discovery in the Jewett Sand, flowing 395 b/d of 34 gravity oil cutting 0.8 per cent. Located in the southeast-quarter of Section 16-31s-29e, the well was drilled to 8494 feet and plugged back to 8300 feet. Production is from the perforated interval in the 5½" casing from 8114-8314 feet.

Midway-Sunset Deep Test

Richfield Oil Corp. is grading location for ROCO-Honolulu-Band No. 1 located in the southeast-quarter of Section 24-31s-22e. Located on the Band Oil Company property, the test will be drilled to approximately 10,000 feet.

Midway-Sunset Test Abandoned

Tannehill Oil Co. has abandoned Well No. 30X at a depth of 4010 feet in Brown Shale and Chert. The test was located in Section 34-12n-24w on the westerly flank of the field.

Wheeler Ridge Well Tests

Kern Oil California Limited's KCL No. 81 in Section 25-11n-20w, on a test of the Z-6 Zone in the interval 10,630-10,775 feet, recovered gas-cut mud and muddy oil and water. Tests are now under way of the Z-0 and Z-1R Sands.

San Benito County Completion

Franco Western Oil Company completed Ashurst No. 18A-28 in Section 28-16s-11e flowing 375 b/d of 32 gravity oil cutting 0.2 per cent water through a 20/64" bean. The well, a southeasterly extension test of the Cedar Flats area, was drilled to 4258 feet and cemented 5½" casing at 3550 feet and perforated at intervals from 3300-3445 feet. The company has started Ashurst No. 28A-28, a southeasterly offset to the completed well.

Vallecitos Completion For Shell

Shell Oil Company completed F & I No. 66-29 flowing at 1390 MCF rate through a ¼" bean on a short flow test, and has been shut in. Flow pressures were 872/886 psi. The well, an extension test, is located in Section 29-16s-11e, was drilled to 3900 feet and plugged back to 3289 feet. The 5½" casing is perforated from 3241-3175 and 3167-3155 feet.

Paloma Outposts Tests

Hamilton Dome Oil Company has awarded drilling contracts to Bell & Burden, Inc. for two outpost tests of the Paloma field. KCL-A No. 23-20 and KCL-A No. 45-20 are both located near the west-quarter corner of Section 20-31s-26e.

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COASTAL AREA

Two Ojai Tests Abandoned

Southwest of Lion Mountain production, Custom Drilling Company has abandoned Wallis et al No. 1 in Section 13-4n-23w at a total depth of 3192 feet. No tests were run on the well.

In the same area, Ray Mustain's well No. 1 in Section 1-4n-22w, after running an electric log, was abandoned at a depth of 1850 feet.

South Mountain Completion

In the Bridge area of the South Mountain field, Shell Oil Company's Saticoy No. 11 in Section 22-3n-21w was completed flowing 1125 b/d of 35.1 gravity oil, cutting 1.4 per cent. Total depth of the well is 9689 feet with a bottom hole plug at 9425 feet. Perforations open to production in the 5½" casing are from 8912-9236 feet and 9279-9420 feet.

Lockwood Valley Test

Dr. Herschel Copeland of Los Angeles has assembled a large block of acreage in the Lockwood Valley area and is making drilling arrangements for an 8000-foot test to be drilled in Section 28-8n-21w.

Bandini Monterey County Test

Bandini Petroleum Company is grading location for Doud No. 54X in Section 19-19s-7e. The test is slated to be drilled to 3500 feet.

Montalvo Completion For Humble

Humble Oil and Refining Company completed Joseph D. McGrath et al No. 1 in Section 31-2n-22w flowing 350 b/d of 29 gravity clean oil through a ⅛" bean and was shut in. Total depth is 12,136 feet with a plug at 12,029 feet. The 7" casing is perforated from 11,083-11,156 feet. McGrath No. 1 in the same section is drilling below 3000 feet.

NORTHERN CALIFORNIA

Gas Discovery for Humble

Humble Oil and Refining Company registered a new field discovery with the completion of its James W. Morgan No. 1, good for 1120 MCF/gas per day through a ½" bean with 750 psi flow pressure. Located in Section 9-23n-3w four miles south of the South Dome Gas Field, the well was drilled to 5435 feet and plugged back to 4454 feet. The 4½" casing is cemented at 4454 feet and the casing perforated opposite the producing interval, 4053-4022 feet.

Sacramento County Test Abandoned

C. D. Howe has abandoned Barnes No. 1, a wildcat test northwest of the Thornton Gas Field, in Section 20-5n-5e, at a total depth of 3995 feet. An electric log indicated no showings.

Glenn County Completion

Humble Oil and Refining Company completed Bounde Creek Unit No. 1-2 in Section 13-18n-2w as a dual completion flowing 2350 MCF/gas from the Upper Zone (2842-67 and 2874-77 feet) and 8136 MCF/gas from the Lower Zone (5500-21 and 5547-41 feet). Flow from the Upper Zone was through a ⅜" bean with 800 psi flow pressure and through a 5/16" bean from the Lower Zone with 2100 psi flow pressure. Total depth of the well is 5750 feet.

Lodi Test Abandons

Approximately eight miles southeast of the Lodi Gas Field, Western Gulf Oil Company has abandoned W. G. Breitenbucher No. 1 in Section 10-3n-8e at a total depth of 3747 feet.

Two Tests for Beehive Bend

McCulloch Oil Exploration Co. of Calif., Inc. is drilling two tests in the area. G. P.-Mohawk-Baker-Capital Unit No. 2 is in Section 19-20n-2w and WWH Unit No. 1 is in Section 14-19n-2w.

Sonoma County Test Resumes

After standing idle for two months, Scott & Hendrickson have resumed operations and are drilling ahead below 4860 feet on Unit No. 1 in Section 21-6n-8w.

OTHER STATES

State of Washington

Sunshine Mining Company has resumed operations on Sampson Unit No. 4 in Section 15-18n-12w and will deepen the well from its present depth of 3731 feet to approximately 4700 feet. Previously tested, the well flowed some condensate and a small amount of gas.

State of Alaska

Halbouty Alaska Oil Company of Houston, Texas, has announced a location for Halaska-King Oil Co. No. 1, to be drill on a 2500-acre block in the Kenai Peninsula area in Section 6-7n-9w. This is a joint venture with King Oil Co. of Los Angeles. Coastal Drilling Company will drill the well.

Standard Oil Company, operator, is moving in equipment for its fourth test in the area. Swanson River Unit No. 4 will be drilled in section 16-8n-9w. Swanson River Unit No. 2 in Section 22-8n-9w is in the process of completing from the interval 11,060-11,038 feet and 10,804 feet.

In the Widebay area on the Alaska Peninsula, Humble Oil & Refining Company's Bear Creek Unit No. 1 in Section 36-29s-41w is drilling ahead below 13,400 feet.

The State of Alaska Land Board has adopted the following policy. State acreage limitation same as federal. 100,-

The drilling crew on General American Oil Co. well A-8, Long Beach; Ben Owens Drilling Co., contractor. Left to right, J. H. White, pipe racker; S. C. Varner, lead tong; L. H. Jones, Cathead; Claude Henry, derrickman; Jess Gorham, driller.

000 acres leases—200,000 acres option. Royalty 1/8th. Land classification to be non-competitive and competitive. All tidelands competitive. Competitive lands determined by presence of known geological structure or field. Same procedure as USGS. State will honor all Federal applications, offers or leases on non-competitive selection.

FOUR CORNERS AREA

Colorado

Continental Oil Company has abandoned Scorup-Somerville-Wilcox No. 1 in Section 8-47n-18w in Montrose County at a depth of 15,000 feet. The test was the deepest well yet drilled in the Paradox Basin.

El Paso Natural Gas Company is preparing locations for two 10,000 foot Mississippian tests in the Alkali Gulch area. Hodges No. 1 will be drilled in Section 29-34n-12w and Jarvis No. 1 in Section 33-34n-12w.

Utah

The Superior Oil Company will drill two tests in San Juan County in the McElmo Creek area. Navajo-E No. 41-13 will be drilled in Section 13-41s-24e and Navajo-E No. 32-23 will be drilled in Section 23-41s-24e in the White Mesa area.

New Mexico

Although the well is still being tested, Alex N. Campbell's Federal-Tonkin No. 1 in Section 23-27n-12w in San Juan County, is without a doubt a new discovery. On a test of the perforated interval 6074-86, 6094-6112 feet the well flowed 2981 MCF/gas per day. Total depth of the well is 6259 feet with 7" casing cemented at 6257 feet.

Arizona

Humble Oil & Refining Company has suspended Navajo-E No. 2 in Section 9-41s-28e at a total depth of 6520 feet. Formation tests of various intervals from 4264 feet to bottom resulted in the recovery of small showings of gas and water.

San Juan County New Mexico Test

Delta Oil Co. is drilling its first gas well in the multi-zone San Juan Basin to prove up the company's centrally located and wholly-owned block of 1991 acres, Theo J. Doerrie, president, reported.

Delta's acreage, a federal lease which the company has held for ten years, is now surrounded on all sides by producing gas wells. Due to geological evaluations, plus a number of recent highly successful completions in the immediate vicinity, Delta has scheduled an initial series of three wells. In addition, the company owns varying interests in 217 gas wells in the San Juan Basin, together with some 80,000 acres of federal and state leases in the Four Corners area.

The well pulling crew on Union Pacific Railroad Co. well UP No. 423, Terminal Island. Left to right, R. E. Greer, head well puller; Al Westcott, derrickman; Gary Nail, floorman; J. C. Burdyshaw, floorman.

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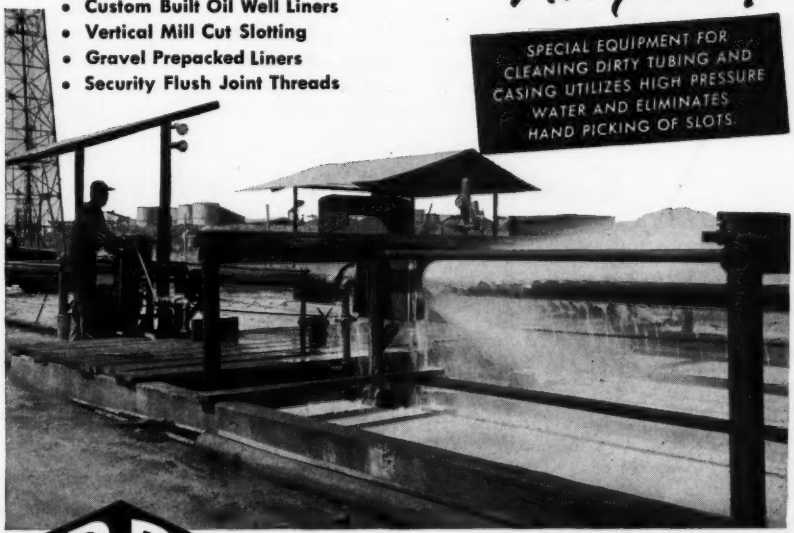

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"Not after the first kiss, he wasn't!"

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In a couple of minutes he returned.

"Well, who was right?" inquired his pals.

"You're both wrong," said he. "It's the Refrain from Spitting."

Girls, don't worry if your husband flirts. My dog chases cars—but if he caught one, he wouldn't know what to do with it.

An actress, in mourning for her third husband, insisted on black olives in her martinis.

A wealthy man about town charged into a station one day, in his flashy convertible, and asked the operator what he charged for a polish job. The operator said $15.00, whereupon the man pointed out that his car was a convertible and the price should be less.

The operator took off his service cap, exposing his shiny bald head, and said, "Look at me. I pay the full price, $1.75, every time I get a hair cut."

The PBX operator of a large company was on vacation. The substitute operator took over the switchboard and called a certain purchasing agent to inform him of a caller.

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P.A.—"Whom is the gentleman with?"

Operator—"He ain't with nobody —he's standing here with his coat on his arm, awaitin' to see ya."

Mother—"Darling, what did you do at the party?"

Little Boy—"Sang the refrigerator song."

Mother—"Tell mama how it goes."

Little Boy—"Freeze a jolly good fellow!"

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The accuracy of McCullough Well Logging Services assured the successful reduction of gas/oil ratio in this Canadian oil well.

Depth of operation was approximately 3200'. Seven inch OD 20 lb. casing had been set on top of the pay. Production was from 6⅛" open hole with a gas/oil ratio of 1800 cubic feet per barrel.

McCullough's Radiation Well Logger with Scintillation Detector was run to determine the depth and detail of the oil sand. Simultaneous Gamma Ray and Neutron Curves were recorded. Gas/oil contact was established from the Neutron Curve. Following this a McCullough Caliper Log obtained excellent detail of the open hole.

From this information a production packer was set and the well was put back on production. Gas/oil ratio decreased from 1800 to 200 cubic feet per barrel.

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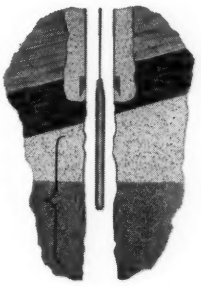
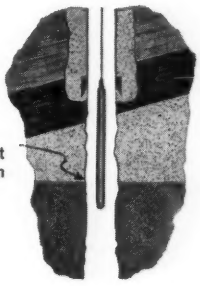
PROBLEM: Gas/oil ratio too high—1800 cubic feet of gas per barrel of oil.

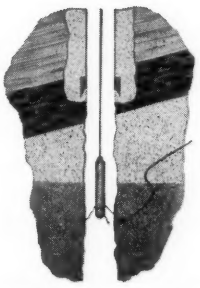
SOLUTION:



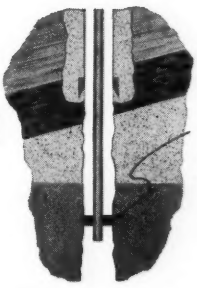
1. McCullough Gamma Ray-Neutron Curves determine depth and detail of oil sand.



2. Gas/oil contact established from Neutron Curve.



3. McCullough Caliper Log obtains excellent detail of open hole.



4. Production packer set at proper place and well put back on production.

RESULT: Gas/oil ratio reduced from 1800 to 200 cubic feet of gas per barrel of oil.

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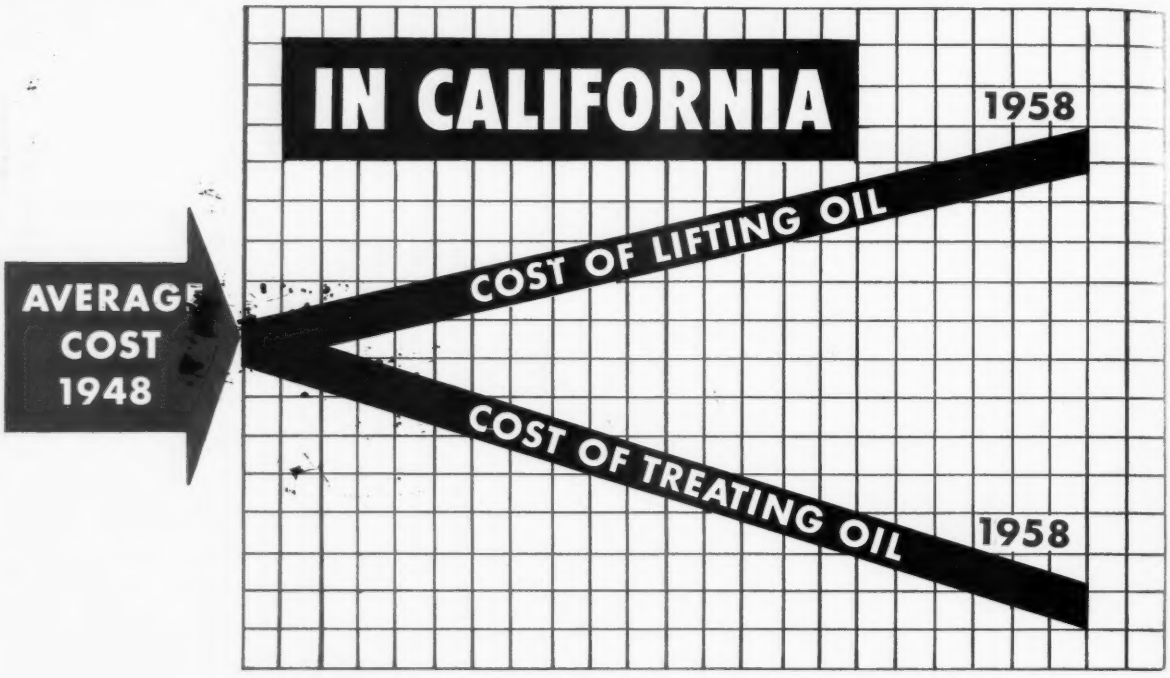

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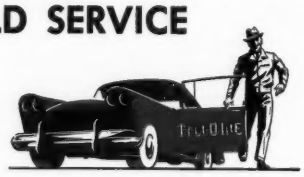

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